

CLAIMS

- Sub 2/7*
1. Multiple layer reinforced flexible hose comprising at least one first inner tubular layer (2) made of extruded plastic material, at least one second outer tubular layer (3) made of extruded plastic material, a tubular reinforcement (4) made of a textile material interposed between said first (2) and said second (3) layer, said layers (2, 3) being homogeneously joined in correspondence of their mutual contact surface so as to define a wall having an overall predetermined thickness (S), wherein an end portion of said wall has an increased thickness along longitudinal portions (A, B) having predetermined extensions to thereby provide watertight sealing action with external connection organs.
- 10
2. Reinforced flexible hose according to claim 1, characterised in that said increased thickness (S') is only localised on said outer tubular layer (3).
3. Reinforced flexible hose according to claim 1, characterised in that said increased thickness (S') is only localised on said inner tubular layer (2).
- 20
4. Reinforced flexible hose according to claim 1, characterised in that said increased thickness (S') is localised on both said outer tubular layer (3) and said inner tubular layer (2).
5. Reinforced flexible hose according to claim 1, characterised in that said increased thickness is substantially constant along the whole extension (A) of said longitudinal portions.
- 25
6. Reinforced flexible hose according to claim 1, characterised in that said increased thickness increases gradually towards the free end of said
- 30

10009712 120701

WO 00/77433

PCT/IB00/00778

longitudinal portions (B).

7. Reinforced flexible hose according to claim 1, characterised in that said increased thickness increases non-linearly towards the free end of said longitudinal portions.

8. Reinforced flexible hose according to anyone of the preceding claims characterised in that said first (2) and said second layers (3) are coloured with different pigmentations along their whole extension or along parts thereof.

9. Reinforced flexible hose according to claim 8, characterised in that said pigmentations and colourings are substantially uniform and they are differentiated in correspondence of the thickness change of said longitudinal portions (A, B) with predetermined extension.

10. Reinforced flexible hose according to anyone of the preceding claims, characterised in that it comprises one or more further inner, outer or middle tubular layers, made of plastic material, having technical and/or aesthetic functions.

11. Reinforced flexible hose according to claim 10, characterised in that said one or more further plastic material layers are chosen in the group comprising food compatible, anti abrasives, UV shielding and ornamental films.

12. Method for the production of the flexible hose according to anyone of claims 1 to 11, characterised in that it comprises the following steps:

a) extrusion of at least a first inner tubular layer (2) made of plastic

WO 00/77433

material having a substantially constant advancement speed (V);

b) weaving textile fabrics material (4) onto the outer surface of said first layer (3), at the same advancement speed;

c) extrusion of at least a second tubular layer (2) made of plastic material at substantially the same advancement speed, on said first layer (2) and said tubular reinforcement (4) so as to allow a homogeneous fitting of said layers (2, 3) so as to form a wall having a predetermined thickness (S);

d) production of longitudinal portions (A, B) having an increased thickness (S', S'') in said first and/or second tubular layer (2,3) so as to enhance resistance of the hose in order to favour a stable mating to hose end joints or to other irrigation accessories;

e) cutting the hose in correspondence of said longitudinal portions (A,B) having increased thickness.

13. Method according to claim 12, characterised in that said step d) is accomplished by means of a change (ΔV) in the advancement speed (V) for at least one of said layers (2, 3) in correspondence with said layers (A, B) having increased thickness.

14. Method according to claim 13, characterised in that the change (ΔV) in advancement speed is accomplished in a gradual fashion so that the thickness of said wall linearly increases along said longitudinal portions (B) having a length reaching a maximum predetermined value (S'').

15. Method according to claim 13, characterised in that the change (ΔV) in advancement speed is carried out instantaneously and it is subsequently reduced to zero along longitudinal portions (A) having a predetermined

WO 00/77433

10009712.120703

PCT/IB00/00778

length such that they increase the thickness (S) in said longitudinal portions of the hose (1) up to a maximum predetermined value (S').

5 16. Method according to claim 12, characterised in that said phase d) is accomplished by a change (ΔQ) in the flow (Q) of extruded material in correspondence of the increase in thickness.

10 17. Method according to anyone of claims 12 to 16, characterised in that said phase d) is accomplished by thickening only said first inner layer (3).

15 18. Method according to anyone of claims 12 to 16, characterised in that said phase d) is accomplished by thickening only said second outer layer (2).

19. Method according to anyone of claims 12 to 16, characterised in that said phase d) is accomplished by thickening both said inner (3) and said outer (2) layers.